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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,796	11/06/2006	Dean C. Draemel	P2003J077-WO	6557
27810 7590 11/14/2008 ExxonMobil Research & Engineering Company P.O. Box 900 1545 Route 22 East Annandale, NJ 08801-0900				
EXAMINER ROBINSON, RENTÉ E				
ART UNIT		PAPER NUMBER		
4132				
MAIL DATE		DELIVERY MODE		
11/14/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/574,796

**Applicant(s)**

DRAEMEL ET AL.

**Examiner**

RENEE ROBINSON

**Art Unit**

4132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4 April 2006 (Prelim. Amend.).  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-10 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 04 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date 20061106  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In particular, the "substantially uniform cross-sectional area" of the particle conduit and the non-circular conduit in claim 1 is not supported by the specification. In the specification, the cross-sectional area of the particle conduit and the non-circular conduit are described as being equal (page 3, lines 8-9).

### ***Claim Objections***

2. Claim 8 is objected to because of the following informalities: claim 8 recites the limitation "wherein the feed injector nozzles at angles of from 20 to 90 degrees in the direction of flow", which appears to be a mistyping of "wherein the feed injector nozzles *are* at angles *from* 20 to 90 degrees *from* the direction of flow". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claim 1, it is unclear what is meant by the limitation "the particle conduit and the non-circular conduit have a substantially uniform cross-sectional area" in lines 6-7. It is unclear whether this describes an equal cross-sectional area, as inferred from the specification, or something else narrower or broader in scope.

6. Regarding claim 5, it is unclear what is meant by the limitation "the direction of axial flow of catalyst" in lines 2-3. It appears that the catalyst refers to the fluidized particles of claim 1; however, there is no qualification of this relationship in claims 1 or 5. As such, the limitation "the direction of axial flow of catalyst" lacks antecedent basis because it is not supported by previous claim 1, which refers to conducting the fluidized particles from the particle conduit to the feed injection zone.

7. Claim 8 recites the limitation "the feed injector nozzles" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim, since there is no mention of feed injector nozzles in previous claims 1 and/or 6. Instead, there is mention of "feed injectors" and "injector nozzles".

8. Regarding claim 8, it is unclear what is meant by the limitation "in the direction of flow" in line 2. It is unclear whether this flow refers to the flow of hydrocarbon feed stream or the flow of catalyst in the injection zone.

9. Regarding claim 9, it is unclear what is meant by the limitation "optimal penetration". It is unclear what aspect of the content in previous claim 1 necessarily results in the penetration of feed being optimal.

***Examiner's Comment***

10. In view of the indefiniteness of the claim scope, an indication of allowability of the claimed subject matter of Claims 1-10 is not warranted at this time. Nevertheless, no rejections over reviewed prior art are presently set forth.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RENEE ROBINSON whose telephone number is (571)270-7371. The examiner can normally be reached on Monday through Thursday 7:30-5:00.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lavilla can be reached on (571)272-1539. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RENEE ROBINSON/

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Examiner, Art Unit 4132

30 October 2008

**/Michael La Villa/**

**Michael La Villa**

**Supervisory Patent Examiner, Art Unit 4132**

**9 November 2008**